

## PENTAX®

Press Release - September 13, 2006

### PENTAX ANNOUNCES K10D DIGITAL SLR WITH TEN MEGAPIXELS, SHAKE REDUCTION AND WEATHER-RESISTANT BODY



GOLDEN, CO. (September 13, 2006)...PENTAX Imaging Company announced today the PENTAX K10D digital SLR camera with 10.2 effective megapixels and a host of advanced technologies including a PENTAX-developed Shake Reduction (SR) system and a weather-resistant body.

Designed to deliver high-quality digital images and responsive operation for advanced photo enthusiasts, the K10D features an array of PENTAX innovations in image capture and camera functionality.

The most significant features in the K10D include:

- A PENTAX-developed Shake Reduction (SR) system that effectively offers a 2.5 to 4 stop advantage for sharp, blur-free images even under difficult shooting conditions, such as macro and telephoto photography or low light settings without a flash. The SR mechanism is designed to minimize camera shake by oscillating the CCD image sensor vertically and horizontally at high speed using magnetic force, while adjusting the speed of oscillation in proportion to the amount of camera shake detected

by built-in sensors. As a result, the system does not require special anti-shake lenses and can be used with more than 24 million PENTAX lenses produced since 1964.\*

- A newly-developed Pentax Real Image Engine (PRIME) designed exclusively for PENTAX digital SLR cameras to produce well-balanced, true-to-life images. In order to meet the performance requirement in handling 10 megapixel data, PENTAX also incorporated a new high performance 22 bit A/D converter to quickly transfer images with accurate color tones and richer gradation from the CCD to the imaging engine.
- A new Dust Removal (DR) system incorporating PENTAX-original Special Protect (SP) coating to help keep the CCD surface dust-free, and a shift mechanism to shake dust off the CCD.



- A dependable dust-proof, weather-resistant body construction featuring 72 seals throughout the camera to allow photographers to continue shooting even in dusty or rainy environments.

\*Lenses compatible with this mechanism are the PENTAX K-, KA-, KAF- and KAF2-mount lenses; screw-mount lenses (with an adapter); and 645- and 67-system lenses (with an adapter). Some functions may not be applicable with certain lenses.

“Advanced photographers will not find another 10 megapixel digital SLR that offers features such as a weather-resistant body, shake reduction, and great ergonomics, at any price,” said Ned Bunnell, director of marketing, PENTAX Imaging Company. “With the K10D introduction, PENTAX is now able to offer digital SLRs for two important users - the first time SLR customer who can buy the K100D and now the K10D for the more advanced users.”



Along with the body, PENTAX announced a D-BG2 battery grip for exclusive use with the PENTAX K10D. This battery grip can be used in combination with the camera's rechargeable lithium-ion batteries to double the camera's battery life. With a vertical shutter-release button, preview lever, two control dials, AE-lock button and green button, the new battery grip makes vertical-position shooting simple and effortless. It also features the same dust-proof, weather-resistant construction as the K10D camera body.

PENTAX also announced the smc PENTAX-DA 70mm F2.4 Limited lens, designed for exclusive use with PENTAX digital SLR cameras and featuring an ultra-thin pancake design and uni-focal, medium-telephoto optics. With a medium-telephoto perspective, this new lens is ideal for many applications including portraiture and landscape. The high-performance optics ensure outstanding image quality, and provide distinctive visual expression. Materials used for this lens are selected for optimum holding comfort and operability, and the new lens is designed to be extremely thin and lightweight, for go-anywhere portability for casual, day-to-day snapshot photography. Click [here](#) to jump to the [DA 70mm Fact Sheet](#)

The K10D body will ship by November 2006 for US \$899.95, and as a kit with the DA 18-55mm lens for \$999.95. The D-BG2 Battery Grip will ship at the same time for less than US \$190.00. The PENTAX DA 70mm lens will ship in October 2006 for less US \$600.00.



## **K10D Digital SLR FACT SHEET**

### **High-quality image reproduction**

The K10D features a large, high-performance 23.5mm x 15.7mm CCD with 10.2 effective megapixels as its image sensor, assuring the reproduction of true-to-life, rich-gradation images.

### **PENTAX-original Shake Reduction mechanism for blur-free images**

The K10D is equipped with the exclusive, PENTAX-developed Shake Reduction (SR) system, which effectively reduces camera shake for sharp, blur-free images even under demanding shooting conditions, such as when using a telephoto lens, shooting in the dark or at night without supplementary flash illumination, or using extended exposures for sunset scenes. This innovative mechanism shifts the position of the CCD image sensor vertically and horizontally at high speed using magnetic force, while adjusting the shifting speed in proportion to the amount of camera shake detected by built-in sensors. It offers an outstanding compensation effect equivalent to 2.5 to 4 shutter-speed steps. As a result, it does not require special anti-shake lenses, and can be used with almost all existing PENTAX interchangeable lenses.\* \* Lenses compatible with this mechanism are the PENTAX K-, KA-, KAF- and KAF2-mount lenses; screw-mount lenses (with an adapter); and 645- are 67-system lenses (with an adapter). Some functions may not be applicable with certain lenses.

### **Newly developed A/D converter for truthful image data conversion**

The K10D incorporates a high-performance A/D converter, which faithfully converts the analog data collected by the CCD image sensor into digital data. With the highest resolving power (22 bits, or 4.2 million gradations) among all existing digital cameras, it offers a digital-conversion capacity 1,024 times greater than conventional 12-bit, 4,096-gradation A/D converters.

### **Newly designed PRIME imaging engine**

The K10D incorporates the new PRIME (PENTAX Real Image Engine) as its imaging engine. Designed exclusively for PENTAX digital SLR cameras, this new imaging engine produces well-balanced, true-to-life images through efficient control of CCD signals, saturation, brightness, white balance, sharpness and contrast. Its new memory (DDR2: Double Data Rate 2) also serves to enhance speedy image processing and high-speed data transfer.

### **Dust Removal system to help keep the CCD surface dust-free**

The K10D features the new Dust Removal (DR) system to prevent dust from sticking to the surface of the CCD image sensor (or low-pass filter). Applied to the CCD surface through a vapor deposition process of a fluorine compound, the PENTAX-original Special Protect (SP) coating effectively prevents dust and stains from adhering to the surface. In the next step, dust that still remains on the surface will be shaken off when the SR system shifts the CCD at high speed. The dust that is shaken off the CCD will fall onto an adhesive sheet positioned at the bottom of the SR unit, eliminating any possibility of its returning to the CCD surface.

### **Dust-proof, weather-resistant construction**

The K10D boasts a reliable dust-proof, weather-resistant construction, with special seals applied to 72 different parts of the camera body, including the shutter release button and switches/levers/dials. This dependable body makes it possible to use the K10D in the rain or at dusty locations without worries.

Original exposure system for faithful reproduction of creative intentions

### **Hyper Program function**

The K10D's Hyper Program function allows the user to instantly switch to the Shutter-Priority AE (Tv) mode or Aperture-Priority AE (Av) mode from the Program AE mode, with a simple turn of the electronic dials on the grip (one on the front for index-finger control, and the other on the back for thumb control). To return to the Program AE mode, simply press the green button positioned next to the shutter release button.

### **Hyper Manual function**

When shooting in the Metered Manual mode, a single push of the green button allows the user to instantly set the proper exposure for the subject.

### **Sensitivity-Priority mode:**

The K10D features a new Sensitivity-Priority AE (Sv) mode, which is designed to automatically select the optimum combination of aperture and shutter speed for user-selected sensitivity. The sensitivity can be shifted instantly (in 1/2 or 1/3 steps) by turning the electronic dial. Since this mode eliminates the need to recall a menu screen for sensitivity changes, the photographer can react more quickly to changing photographic conditions.

### **Shutter & Aperture-Priority mode:**

Another exposure mode offered by the K10D is Shutter & Aperture-Priority AE (TA<sub>v</sub>) mode, which is designed to automatically select the most appropriate sensitivity for a user-selected shutter-speed & aperture combination.

### **Bright, clear viewfinder**

Featuring a glass pentaprism, the K10D's viewfinder offers a 96-percent field of view and a 0.95-times magnification for easy viewing of the subject and effortless confirmation of focus and composition. Coupled with the acclaimed Natural-Bright-Matte II focusing screen, it delivers a large, bright subject image.

### **Auto sensitivity control up to ISO 1600**



The K10D's auto sensitivity control function automatically sets the optimum sensitivity up to ISO 1600, based on such data as the subject's brightness level and the lens' focal length. Since this function allows the use of higher shutter speeds in poor lighting situations (such as indoor sports events and night scenes), it helps the photographer to effectively reduce camera shake and prevent blurred images. For specialized applications, the sensitivity can be set manually from ISO 100 to ISO 1600.

### **Continuous shooting at approximately 3 images per second**

To trace the movement of an active subject or capture a sequence of the subject's expressions, the K10D offers a continuous shooting mode that allows the photographer to capture a series of images at a maximum speed of approximately 3 images per second. In the JPEG recording format, the user is allowed to take as many images in succession as wished, until the capacity of an SD memory card runs out, or in RAW mode up to 12 images at 3.0 fps.

### **Reliable shutter unit**

The K10D's shutter unit is designed to withstand nearly 100,000 releases, while assuring high-precision operation over the entire shutter-speed range — up to a top speed of 1/4000 second. It also features a flash synchronization speed of 1/180 second for more versatile flash photography.

### **11-point wide-frame AF**

The K10D's sophisticated SAFOX VIII autofocus system features 11 sensor points (with nine cross-type sensors positioned in the middle) to automatically focus on the subject with utmost precision, even when it is positioned off center. The in-focus sensor point is automatically superimposed in red in the viewfinder for at-a-glance confirmation.



### **Extra-large, wide-view LCD monitor**

The K10D incorporates an extra-large 2.5 inch color LCD monitor on its back panel. Its wide-view design allows the photographer to check the monitor image from 140 degrees both vertically and horizontally, ensuring effortless image viewing even from a diagonal position. With approximately 210,000 pixels, it also offers digital zooming of playback images up to 20 times for easy confirmation of the image's focusing status and details.

### **Powerful rechargeable batteries for extended shooting**

The K10D features new, large-capacity lithium-ion rechargeable batteries, which can capture approximately 500 images\* when fully recharged.

\* Under testing conditions prescribed by the CIPA standards (flash illumination used in 50% of images).

## **Compatibility with supersonic motor-driven lenses**

The K10D is designed to be compatible with supersonic motor-driven autofocus lenses (currently under development), which are expected to provide smoother, quieter autofocus operation than conventional lenses.

## **Additional features:**

- Choice of 16-segment multi-pattern metering, center-weighted metering and spot metering to accommodate various photographic applications
- High-rigidity stainless-steel chassis
- 32 custom functions to personalize camera operations
- Extended bracket function to capture three images of the same subject at different contrast, saturation, sharpness or white-balance levels
- Compatibility with conventional SD memory cards and newly introduced SDHC memory cards
- Choice of two preview functions (digital/optical)
- Simultaneous recording of RAW and JPEG images
- Manual fine adjustment of white balance
- Day-by-day folders to simplify the arrangement and search of recorded images
- Six built-in digital filters (Black-and-white, Sepia, Slim, Soft, Brightness and Color) for easy editing of recorded images

Remote shutter release from the front and back sides of the camera using optional remote controller  
PENTAX PHOTO Laboratory 3 RAW data processing software and PENTAX PHOTO Browser 3 browser software, included on the accompanying CD-ROM

Compatibility with PictBridge, DPOF, Exif Print and PRINT Image Matching III systems

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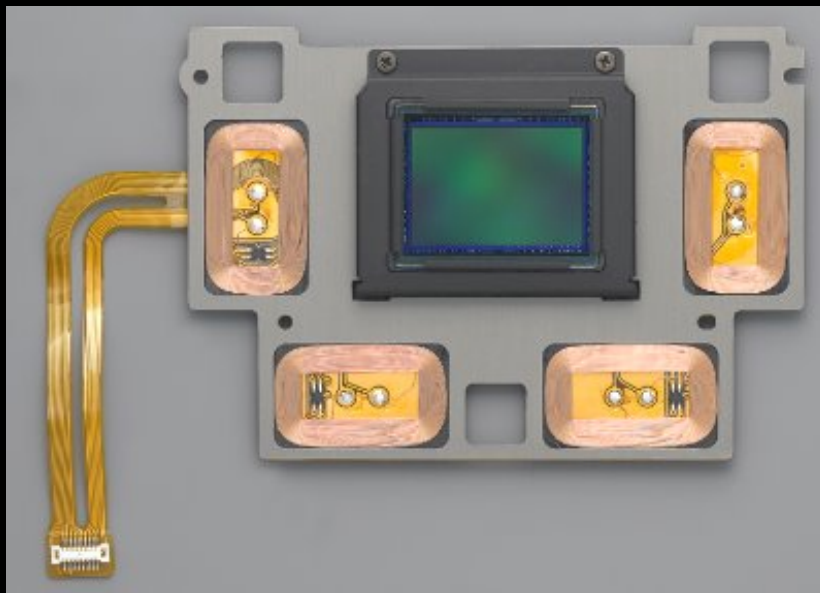
## **Shake Reduction Technology**

The new PENTAX K10D and K100D digital SLR cameras incorporate a unique high-tech feature that helps deliver sharp, blur-free handheld shots with any Pentax lens. This is particularly helpful in situations where camera shake is an issue, such as with telephoto lenses, indoors without a flash, or other low light conditions at dawn, dusk or at night.

## **How PENTAX Shake Reduction Works**

The PENTAX Shake Reduction (SR) feature is an electromagnetically controlled system built into the body to detect handheld camera shake and compensates by moving a free floating image sensor. Unlike other DSLR optical anti-shake systems, this SR system delivers shake reduction with all PENTAX lenses ever manufactured without requiring a special series of bulky, expensive optics.

Based on a free-floating sensor design, PENTAX SR is superior to other sensor-moving systems because it uses no guide rails, allowing the sensor to oscillate in three directions—horizontally, vertically, and rotationally.



Over 30 patents have been filed for this SR system, which uses a ball-bearing-mounted oscillator unit with four electromagnets that hold the free-floating image sensor. Angular velocity sensors detect camera movement and relay the amount of compensation necessary to the electromagnets that move the sensor to compensate for any shake.

As a result, photographers can capture sharp images at a shutter speed that is 2 – 3.5 stops slower with the K100D and 2.5 – 4 stops slower with the K10D (e.g. 1/15 sec instead of 1/60 sec with a standard lens) than would otherwise be possible. The SR system provides a crucial advantage when shooting handheld with telephoto or tele-zoom lenses, at macro distances, or any other situation that magnifies the effects of camera shake. The SR system also helps considerably when taking non-flash pictures indoors or at dusk or other low light situations without using a tripod.

#### **Additional Advantages of the PENTAX SR System**

- Since the SR system is activated only when you press the shutter release, any effect on battery consumption is negligible.
- PENTAX SR is optional. You can leave SR on permanently, turning it off only when using a tripod or panning (deliberately moving the camera in the direction of subject motion to blur the background).
- Performance capabilities such as auto-focus speed, shutter lag time and continuous shooting rate are unaffected by the SR system because its operation is instantaneous, occurring within the normal exposure interval.
- By building the shake-reduction system into the body, the Pentax SR system provides maximum flexibility and requires no compromises in optical quality.
- To provide optimal shake reduction, the camera must “know” the focal length of the lens in use. Pentax F, FA, D-FA, and DA series lenses automatically relay focal length information to the camera. With older lenses, the Pentax K100D allows users to manually input focal length information via the Shake Reduction menu which allows focal lengths all the way from 8mm to 800mm.

The SR system in the K10D and K100D is an engineering achievement and an example of PENTAX's commitment to our legacy of lenses.

## **K10D Specifications**



Image Capture Device:	<p>Interline interlace CCD with a primary color filter</p> <p>Shake Reduction – CCD Image Sensor Shift</p> <p>Total Pixels – 10.75 megapixels</p> <p>Color Depth – 8 bit (JPEG) or 12 bit (RAW) x 3 colors</p>
Effective Pixels:	10.2 megapixels
Recorded Pixels:	<p>JPEG: 10M 3872x2592 pixels  6M 3008x2000 pixels  2M 1824x1216 pixels  RAW: 10M 3872x2592 pixels</p>
Focus System:	<p>TTL phase-matching 11-point autofocus system (SAFOX VIII) w/AF assist lamp</p> <p>Autofocus Modes - AF-Single (with focus lock), AF-Continuous, Manual</p> <p>Illumination Range – EV1 - EV19 (At ISO 200 with 50mm f1.4 lens)</p>
Lens Mount:	<p>PENTAX KAF mount compatible with PENTAX KAF2, KAF and KA mount lenses</p> <p>Power zoom function - Not available</p> <p>K-mount lenses - usable with restrictions</p> <p>S-mount lenses - usable with adapter and restrictions</p> <p>67/645 lenses - usable with adapter and restrictions</p>
DA 18-55mm Lens:	<p>DA series smc PENTAX zoom</p> <p>Focal Length - 18mm - 55mm</p> <p>35mm Equivalent - 27mm -83mm</p> <p>Aperture Range – F3.5 – F5.6</p> <p>Construction - 12 elements in 9 groups</p>
Light Metering:	<p>TTL open-aperture metering</p> <p>16-segment, Center-weighted &amp; Spot meter</p> <p>Range: EV1 - EV21.5 (at ISO 200 with 50mm f1.4 lens)</p>
Sensitivity:	ISO Auto, 100, 200, 400, 800, 1600
Exposure Control:	<p>Green, Program AE, ISO Priority AE, Shutter Priority, Aperture Priority, Shutter &amp; Aperture Priority, Metered Manual, X-Sync, Bulb</p> <p>Exposure Compensation - +/-3 EV (1/2 or 1/3 steps)</p> <p>Auto Exposure Lock - Pushbutton type with approx. 20 sec. timer</p> <p>Depth of Field Preview - Via main switch</p>
Auto Bracketing:	3 frames +/-1.5EV (1/2 steps) or +/-1EV (1/3 steps)
Shutter:	<p>Electronically controlled vertical-run focal plane shutter</p> <p>Shutter Speed - 1/4000 - 30 seconds and Bulb</p>
White Balance:	<p>TTL Auto, Pre-set, Custom white balance</p> <p>Auto, Daylight, Shade, Cloudy, Tungsten light, Fluorescent light, Flash, Manual</p>

Flash:	<p>Built-in series-control retractable P-TTL pop-up flash</p> <p>Operation Modes - Auto, Flash-off, Flash-on, Auto + Red-eye reduction, Flash-on + Red-eye reduction</p> <p>Guide Number - 15.6 (at ISO 200/m)</p> <p>Angle of View Coverage - 28mm (equivalent to 35mm)</p> <p>Flash Exposure Compensation - +1 to -2 (1/2 steps)</p> <p>Flash Synchronization - With RTF and via hot shoe</p> <p>Synchronization Speed - 1/180 sec, P-TTL high speed sync with PENTAX dedicated flash</p>
Digital Filter:	<p>Black &amp; White (4 types), Sepia (3 types) , Color (18 types), Soft (3 levels), Slim (+/- 8 levels), Brightness (during playback)</p>
Drive Modes:	<p>Single-shot, Continuous 3fps to card capacity (JPEG), 12 frames (RAW), Self-timer (12sec, 2sec), Auto bracketing, Extended Bracketing, Remote Control (0sec, 3sec)</p>
Time:	<p>Modes - dd/mm/yy, mm/dd/yy, yy/mm/dd; World Time - Displays the time in 70 cities (28 time zones)</p>
Dust Reduction:	<p>Type - Image sensor vibration with SP coating</p>
Image Storage:	<p>Storage Media - SD memory card, SDHC memory card;</p> <p>File Formats - Still: JPEG (Exif 2.21), RAW (PEF, DNG), DCF (Design rule for Camera File system),</p> <p>DPOF (Digital Print Order Format), PRINT Image Matching III</p>
Viewfinder:	<p>Optical Viewfinder -Pentamirror with Natural-Bright-Matte II focusing screen</p> <p>Viewfinder Coverage - 95%</p> <p>Viewfinder Magnification - 0.95x (with 50mm f1.4 lens, -1-1)</p> <p>Diopter Adjustment - -2.5m-1 to +1.5m-1</p>
LCD	<p>2.5 inch, TFT color LCD (Low Reflection) –with Histogram display</p> <p>LCD Coverage - 100%</p> <p>LCD Resolution - Approx. 210,000 pixels</p> <p>Angle of View - Approx. 140°</p>
Playback Modes:	<p>Single, Index - Nine image</p> <p>Magnification – 20x</p> <p>LCD Function - Image rotation, Slide show, Digital filter, Histogram, Exposure warning</p> <p>Erase and Image Protect Modes - Single, All</p>
PictBridge:	<p>One image print, All image print, DPOF, Paper size, Paper type, Paper quality, Border</p>
Language:	<p>English, French, German, Spanish, Italian, Russian, Chinese, Korean, Japanese, Swedish, Dutch</p>
Interfaces:	<p>USB 2.0 high speed</p> <p>Video Output - Compatible with NTSC and PAL formats</p>
Power Supply:	<p>D-LI50 Lithium-ion battery, which can capture approximately 500 images when fully recharged (CIPA standards, flash illumination used in 50% of images).</p> <p>Optional AC adapter also available</p>
Operating Temperatures:	<p>32° to 104° F / 0° to 40° C</p>
Dimensions:	<p>(W x H x D) – 5.6 x 4.0 x 2.7 inches (141.5 x 101 x 67.5mm)</p>
Weight:	<p>25 oz. (710g) without battery and SD memory card; 27.9 oz. (790g) loaded and ready</p>

Computer System  
Requirements:

Mac Requirements - OS: Mac OS 10.2 or later, standard equipped USB port; PC  
Requirements - OS: Windows 2000, XP Home edition / Professional, standard  
equipped USB port

## Smc PENTAX-DA 70mm F2.4 Limited FACT SHEET



Ultra-thin, super-lightweight design

Thanks to its newly developed, high-performance optics, this new medium-telephoto lens measures only 26 millimeters long and weighs a mere 130 grams. When mounted on a PENTAX digital SLR camera body, it protrudes very little from the camera's front panel and offers a focal length equivalent to 107mm in 35mm format, making it a perfect choice for casual portrait and landscape photography.

Limited Lens-series quality

Distinctive visual description:

The PENTAX Limited Lens series is designed for distinctive visual description by combining a series of mechanical and numerical evaluations with human assessment of test-shooting samples. As a result, this lens produces smooth, natural skin tones and beautiful out-of-focus backgrounds at open aperture in portrait applications, while assuring crisp, high-contrast images at closed-down aperture in landscape photography.

Premium appearance:

The lens barrel, hood and cap are all made of a high-grade aluminum material, shaped for perfect proportions and striking beauty. The focusing ring is designed for superb accessibility and maximum ease of focusing operation.

SP coating to protect the lens against weather and grease:

The PENTAX-original Super Protect (SP) coating is applied to the front surface of this lens. Through a vapor deposition process, the lens surface is coated with a special fluorine compound to repel dust, weather and grease, making it easy to wipe off fingerprints and cosmetics.

Digital SLR-exclusive optical design:

This lens is exclusively designed for use with PENTAX digital SLR cameras, with an image circle perfectly proportioned to the CCD size (23.5mm x 15.7mm), and optics optimized for digital imaging characteristics. Combining high-quality image reproduction with an ultra-thin, super-lightweight design, it is a perfect partner to PENTAX digital SLR cameras.

#### Additional Features

- PENTAX-developed Quick-Shift Focus System for instant switching to manual-focus operation after the subject is captured in focus by the AF system
- Detachable, extendible lens hood (included) for enhanced portability
- Nine-blade diaphragm for natural out-of-focus description

#### Specifications

Lens mount: PENTAX KAF mount  
Lens construction: 6 elements in 5 groups  
Angle of view: 23° (when used with \*istD-series & K100D camera body)  
Aperture control: Automatic  
Number of diaphragm blades: 9  
Minimum aperture: F22  
Metering system: TTL open-aperture metering  
Minimum focusing distance: 0.7m (2.3 ft.)  
Filter size: 49mm  
Maximum magnification: 0.12X  
Dimensions (diameter x length): 63mm x 26mm (2.5 inches x 1.0 inch)  
Weight: 130g (4.6 oz.) without hood; 150g (5.3 oz.) with hood

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PENTAX Imaging Company is an innovative leader in the production of compact and digital SLR cameras, binoculars, lenses, eyepieces, mobile printers, scanners and Internet cameras. For more than 80 years, PENTAX technology has developed durable, reliable products that meet the needs of consumers and businesses. With headquarters in Golden, Colorado, PENTAX Imaging Company is a division of PENTAX of America, Inc.

**Return to**  
**Breaking News page**

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